

Ecolab's Monterrey, Mexico Plant Certifying as Water Stewardship Leader

Case Study for Implementation of Alliance for Water Stewardship (AWS) Standard



BACKGROUND

Ecolab's manufacturing facility located in the city of Apodaca, just outside of Monterrey, in the state of Nuevo Leon, Mexico, is a factory dedicated to the production of industrial chemical solutions for detergents, disinfectants and other cleaners. The Monterrey site primarily uses municipal water sourced from the Rodrigo Gómez la Boca, Cerro Prieto and El Cuchillo dams which ultimately obtain water from the Pesquería River Basin. Domestic and industrial effluents are treated at the plant and discharged into the municipal water system, which provides additional treatment before discharging to the Pesquería River.

In alignment with Ecolab's commitment to a holistic approach to water management across its manufacturing facilities, the company is pursuing the Core Certification for Alliance for Water Stewardship (AWS) Version 2.0 International Water Standard at its Monterrey plant.

SITUATION

The team at Ecolab's Monterrey plant assessed the facility for opportunities to decrease water use across operations to meet Ecolab's 2030 Impact Goals to reduce water impact by 40% per unit production across the enterprise and further restore greater than 50% of absolute water withdrawal volume at high-risk sites. Aligned with these enterprise goals, the local team's objective was to reduce annual water use per ton of product by 3.3% on average each year from a 2018 baseline.

Water reduction and reuse opportunities were identified in the following areas: Rainwater recovery, reduction of water use in bathrooms, implementation of water saving faucets and reuse of tank washing water. Prioritization of these opportunities involved collaboration across the Corporate Sustainability and Monterrey Engineering and Safety, Health and Environment (SHE) teams.

ANNUAL SAVINGS



WATER

1.2 MILLION

gallons (~4,600 m³)

TOTAL VALUE DELIVERED

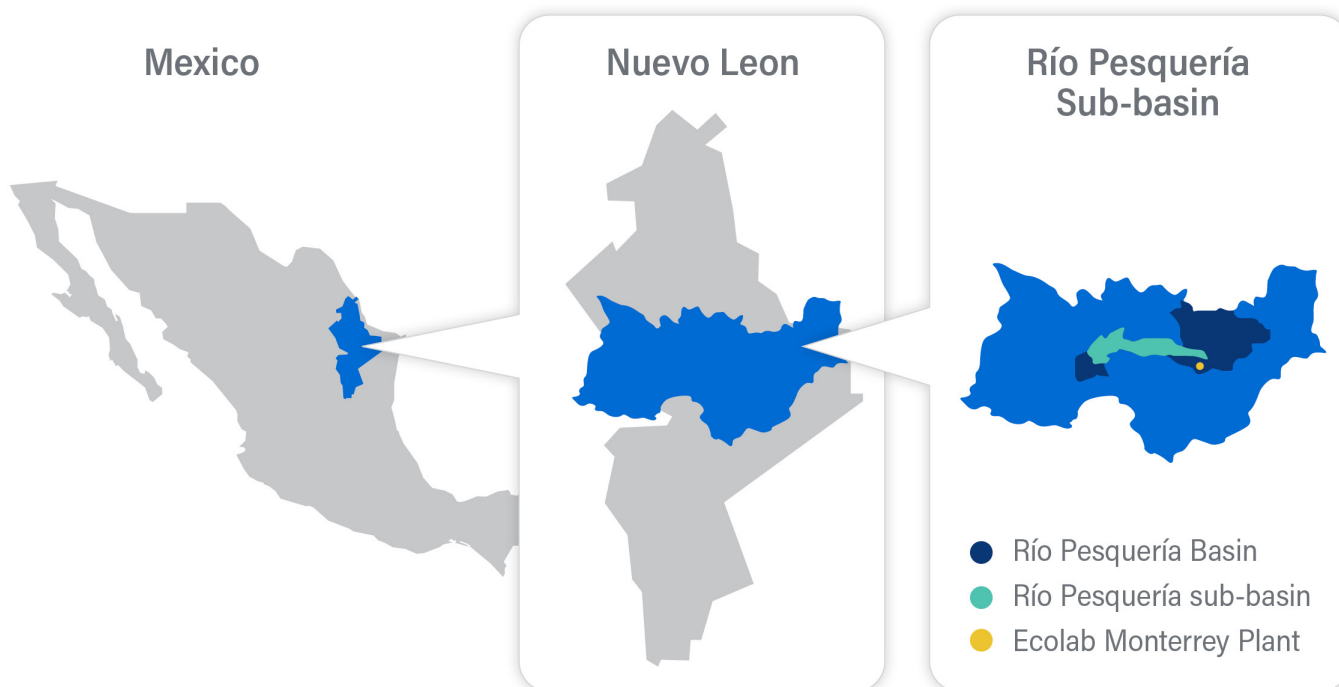
\$52,500

risk-adjusted cost savings

With the aim to improve overall health of local watersheds, and as part of Ecolab's 2030 Impact Goals, we have prioritized AWS certification in high-risk watersheds in which we operate.



**ALLIANCE FOR
WATER STEWARDSHIP**



SITUATION (CONT.)

A comprehensive risk assessment was performed leveraging insights from Ecolab's Smart Water Navigator, the World Resources Institute Aqueduct Atlas, the World Wildlife Fund Water Risk Filter and the World Business Council for Sustainable Development's WASH Pledge assessment tool to identify shared and site-level water challenges. Implementation of water withdrawal reduction projects was prioritized based on risk probability and impact to site-level and community stakeholders. Of the five water outcomes of the AWS Standard, Monterrey focused on sustainable water balance, good water quality and good water governance balancing relevancy and risk to the site.

SOLUTION

The following projects help improve the facility's water balance and have been initiated to reduce overall water use:

- Recovery and reuse of osmosis rejection water.
- Recovery of water from air conditioning units.
- Improvement of the plant's wastewater treatment capacity for advanced water recycle and reuse applications.

The following projects are being considered for future enhancements:

- Implementation of an idea collection system to gather water-saving ideas from plant employees, which encourages

associates to view water as a shared resource and drives collective action that feeds into water-savings discussions during monthly business reviews. Rainwater collection and reuse, to reduce overall water consumption.

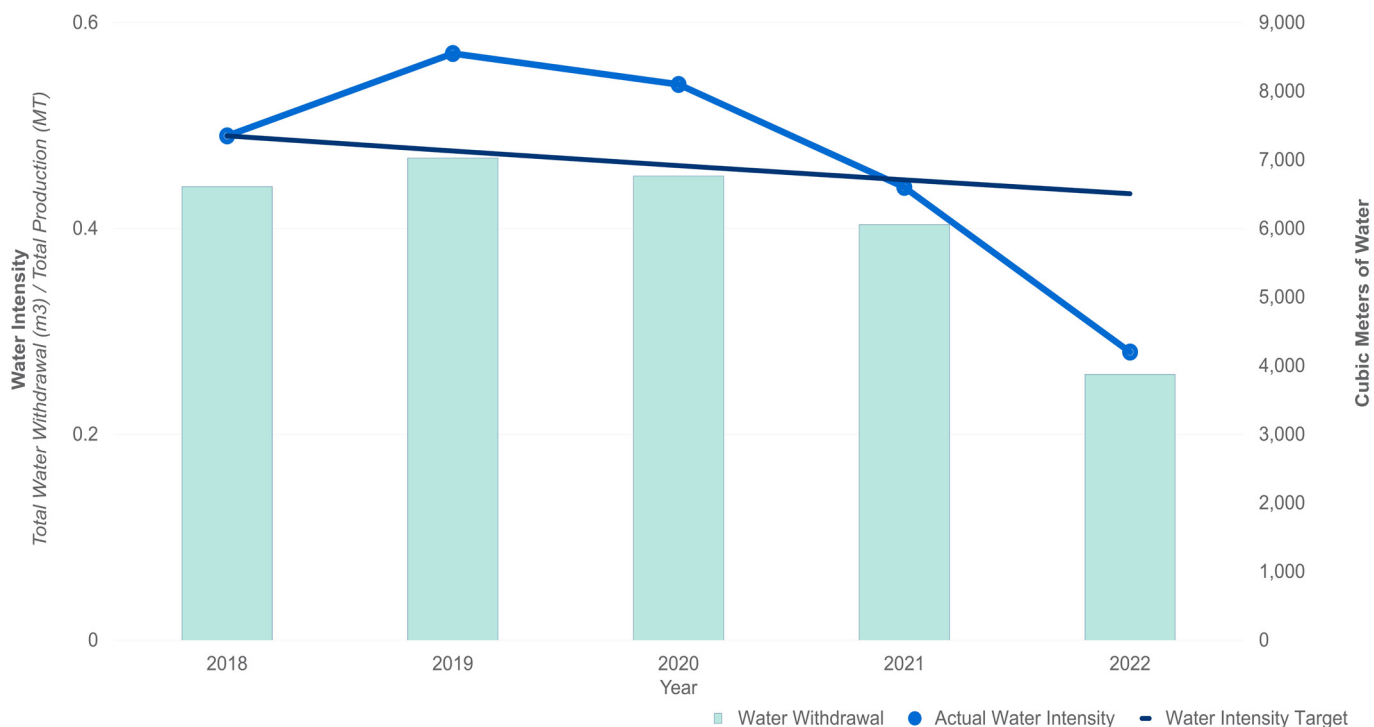
- Implementation of Water Flow Intelligence to improve visibility across water assets onsite.

These combined efforts contributed to the Monterrey plant's progress towards their average 3.3% annual water intensity reduction target by achieving an overall reduction of 43% water withdrawal per ton of product in 2022 from a 2018 base year. The following projects are considered for future enhancements:

PERFORMANCE

Positive Water Impact | Average annualized water withdrawal reduction of 181,000 gallons (685 cubic meters) resulting in a 43% reduction of water use per ton of product realized in 2022 from a 2018 base year.

Economic Results | \$3,630 in average annualized risk-adjusted cost savings.



WATER GOVERNANCE

At the plant level, the SHE manager is responsible for wastewater testing, compliance, effluent and legal wastewater discharges. The maintenance supervisor is responsible for sewage discharge, water consumption and steering water savings projects onsite as well as operation of the wastewater treatment plant and the soft and deionized water and rainwater collection systems.

To maintain good water quality, the Monterrey Quality Team monitors water quality daily. Additionally, wastewater is analyzed by a local third-party organization every three months. If a spill or water-related issue were to occur, the site has a robust incident response plan that includes a root cause analysis of the original incident, a review by the leadership team, documentation in an internal reporting platform and communication of mitigation strategies during monthly site meetings. The site has not had any water related violations in the past year.

The Global Sustainability Team is guided and advised by the Sustainability Executive Advisory Team, which is made up of the company’s most senior business and divisional leaders. In addition, Ecolab’s Sustainability, Water Stewardship and SHE positions are publicly available and serve as commitments to and guidance on water-related issues and compliance.

WATER STEWARDSHIP JOURNEY

In addition to internal operational improvements, Ecolab’s Monterrey facility’s external water stewardship activities are ongoing. Shared challenges between the plant and relevant, local stakeholders include water scarcity, infrastructure and finance for water-related projects and water quality. To address these shared issues, Ecolab collaborates with other water users in the basin.

Site employees participate in numerous social projects including a garbage collection event in the green spaces near the plant, awareness and education campaigns in public schools to promote handwashing and volunteering events focused on planting trees in the mountainous area surrounding Monterrey. The facility engages with public stakeholders including the municipal water sanitation provider, a variety of private companies in the area and several non-governmental organizations (NGOs).

Since 2014, the Ecolab Foundation and TNC have restored and conserved over 293 acres of land in the Cumbres de Monterrey National Park, which provides over 60% of the Monterrey metropolitan area’s water supply. These activities have been aimed at improving water infiltration, regulating water flow, reducing flood risk and strengthening water security and climate resilience for communities in and around Monterrey.

WATER STEWARDSHIP JOURNEY (CONT.)

Furthermore, our collaboration has also produced a community tree nursery that supplies trees for restoring the landscape and contributes to the livelihoods of local farmers. The nursery, launched in 2018, is currently producing 60,000 plants per year. These plants have the potential to reforest between 300 to 370 acres of areas devoid of vegetation in the Cumbres de Monterrey National Park. The tree planting also helps with water filtration and flow of both surface and groundwater to benefit 4.5 million people.

On top of local water stewardship efforts, Ecolab's global giving program, Solutions for Life, enhances the company's mission to conserve and protect fresh water through partnership and additional projects with The Nature Conservancy and the Project WET Foundation.

This case study was created to comply with AWS indicators 5.1.1, 5.2.1, 5.3.1, 5.4.1, 5.4.2, 5.5.1, 5.5.2 and 5.5.3. For more information, please contact sustainability@ecolab.com.

1 Ecolab Place
St. Paul, MN 55102

ecolab.com

©2023 Ecolab USA Inc.